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ABSTRACT

This final report discusses the activities and outcomes of the Oregon Building Capacity for Sustainable Change (BCSC) Project. This project provided a unique and comprehensive alternative professional development strategy for increasing the capacity of families and educators to effectively design, deliver, and continuously improve supported, inclusionary educational services for students with developmental disabilities. For each of the three project years, BCSC supported fellowships for educators and family members to participate in a special university-based 4-course professional development sequence. Additionally, the first three of the courses each year were offered over EDNET, Oregon's 1-way video, 2-way audio distance teaching technology. Courses included: "Curriculum Planning for Students with Severe Disabilities I and II," "Classroom Management & Program Improvement," and "The Role of Families in Bringing School Inclusion to the Community." Over the three years, BCSC supported a heterogeneous mix of 149 professionals and family members from over 27 different school districts. These participants studied at various locations around the state at 21 different EDNET downlink sites and worked in class alongside preservice teachers and masters degree students. The report discusses the project's design, many accomplishments, and distance education format. (CR)

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BUILDING CAPACITY FOR SUSTAINABLE CHANGE

FINAL REPORT

Short Version – No Attachments

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ABSTRACT

The Building Capacity for Sustainable Change (BCSC) Project provided a unique and comprehensive alternative professional development strategy designed to increase the capacity of families and all educators to effectively design, deliver, and continuously improve supported, inclusionary educational services for students with developmental disabilities. For each of the three project years, BCSC sponsored Fellowships for educators and family members to participate in a special university-based, 4-course professional development sequence. Additionally, the first three of the courses each year were offered over EDNET, Oregon's 1-way video, 2-way audio distance teaching technology.

The BCSC Courses consisted of a year-long sequence of 4 courses. One 3-credit course was offered per term, which met every Tuesday evening after normal teacher work hours from 5:30 - 8:30 p.m. during the school year. The Summer Workshop met daily for the first two weeks of the summer term. In addition, the three school-year courses form part of the master's degree core content, and the fourth counts as an elective. Participants were therefore encouraged to subsequently apply to the graduate school in special education, since these 12 credits were applicable towards an advanced degree. The course sequence included *Curriculum Planning for Students with Severe Disabilities I & II, Classroom Management & Program Improvement,* and *The Role of Families in Bringing School Inclusion to the Community.*

Over the three Project years, BCSC supported a heterogeneous mix of 149 professionals and family members from 27+ different school districts. These participants studied at various locations around the state at 21 different EDNET "downlink" sites and worked in class alongside our preservice teachers and master's students. Additional educators seeking professional development who had access to alternative financial resources also participated. The professionals supported as BCSC Fellows included: speech therapists, educational assistants, K-12 general and special educators, a school board member, and administrators. Many of the our preservice students contemporaneously completed practica in the classrooms of the local BCSC Fellowship teachers, thus furthering a collaborative understanding and application of the course content. Project liaisons provided on-going support during the actual course class time, periodically traveling to the distant, "bridge" sites; during the week via electronic communications; and providing on-site, school-based support to Fellows when appropriate.

BCSC project staff also supported several in-depth follow up activities and extensive interviews with participants as a key component of the project's comprehensive evaluation strategy. Participants completed individual action agendas which reflected their school's individual status in the course of Oregon's statewide school reform and restructuring efforts. Teachers were effectively able to implement course materials, planning tools, and theoretical concepts in their practice and to transmit their own learning and professional growth to colleagues throughout and beyond their own districts. The Project also initiated formative phases of a different approach to professional development planning for teachers and districts, with an emphasis on improving learning opportunities and educational outcomes for all students.

PURPOSE OF PROJECT AND OVERVIEW

The purpose of the BCSC Project was to demonstrate and evaluate a comprehensive strategy for building the capacity of both general and special educators to cooperatively design curriculum and teaching for diverse groups of students that include the full range of abilities, including those with severe developmental disabilities. At the same time the project strove to help local schools meet national education goals by promoting increased collaboration among general and special education personnel, increased systematic family involvement in the education of their children, and the inclusion of children and youth with disabilities in all aspects of the educational community.

The Intersection of Needs

BCSC addressed the intersection of three distinct issues as teachers and families face the complex challenges of including students with significantly different learning and support needs into general education and community contexts. These issues included:

(1) the need to enhance the capacity of both general and special education teachers to meet the learning needs of all students in classrooms. As students become more diverse, all teachers need to understand the concept and procedures for individually tailoring student learning through the very process of initial curriculum design. This process also requires learning to work differently with families to build the bridges between students' "academic" school work and the effective application of that learning in familial and community contexts.

(2) the growing acknowledgment that traditional, short-term inservice experiences have proven inadequate to build teachers' capacity for making substantial and durable change in their day-to-day practice; and,

(3) improving traditional preservice programs by integrating both general and special education content *as well as* practicing educators with the preservice students to ground their learning in the realities of day-to-day contingencies and experience.

A new approach to preservice and professional development

These three areas of need have a cumulative effect: they intersect and have a joint impact on the confidence and competence of teachers and the overall quality of public education. The BCSC Project responded to these joint needs through innovative curriculum and instructional approaches; recruitment of practicing general and special educators from around the state into coursework; and engendering an attitude and personalized approach to the planning of meaningful continuing professional growth and development.

Achieving multi-theoretical fluency: To be effective in the complex and changing structures of tomorrow's schools, teachers will need to use theoretical foundations be-

yond the domains typically covered in familiar subject area approaches. In order to include all students in reformed American schools, teachers will also need to become fluent in the theoretical underpinnings necessary to general education, adult education, supervision and staff development, social and disability policy, and community organizing and advocacy.

However, the successful inclusion of students with disabilities is also predicated upon building a strong foundation in the community at large, not just school. Successful teachers will be those with the capacity to involve entire families in the educational changes in their schools and classrooms in order to integrate those community linkages with student goals and outcomes.

Creative and collaborative problem-solving: Successful educators of the future will be those professionals able and comfortable with working with others – sharing skills, problem solving, and planning together – in order to respond to increasingly diverse groups of students and changing demands of internal and external pressures. "Mixed ability" groups of teachers will function as a team to design and deliver creative curriculum to these mixed ability classrooms.

Individually tailored professional growth: In order to build their capacity for effecting sustainable change, educators must take control of their personal and professional growth. Hallmarks of tomorrow's effective teacher will be on-going self-evaluation and professional reflection, action/advocacy planning, and networking and participating in various, but coherent, professional development opportunities.

BCSC PROJECT DESIGN

The Building Capacity for Sustainable Change Project was built upon a solid foundation of experience and innovation in personnel preparation; educational inclusion of students with disabilities; and professional involvement with families who have youngsters with disabilities. It was also built upon a successful pilot effort to bring local preservice and inservice teachers together to learn. Table 1 provides a brief summary of the Project Objectives and Activities, followed by a more in-depth discussion of four innovative features of BCSC.

Table 1: BCSC Objectives and Activities

1.0 Provide ongoing professional development
- 1.1 Recruit field-based project participant teams.
- 1.2 Organize downlink sites.
- 1.3 Assign formation of ongoing participant work groups.
- 1.4 Orient onsite and offsite participants to technology.
- 1.5 Assist participants to develop and implement individual action agendas.

2.0 Provide ongoing support
- 2.1 Identify work group support liaisons and distance site liaisons.
- 2.2 Maintain weekly outside-of-class contact with each work group through meetings, phone calls, or visits.
- 2.3 Support all participants to create work sample portfolios.
- 2.4 Hold an annual one day reunion of all BCSC participants.

3.0 Package and test condensed video
- 3.1 Prepare condensed video and activity script for each course.
- 3.2 Test condensed video/activity script package with 3-5 field-based teams.
- 3.3 Revise video and activity script.
- 3.4 Prepare and disseminate reports ad articles documenting project accomplishments and results.

4.0 Complete evaluation and follow-through
- 4.1 Evaluate course content, activities, and format.
- 4.2 Evaluate effectiveness of distance technology.
- 4.3 Evaluate student learning through work sample notebooks, individual action plans, and action plan reports.
- 4.4 Complete follow-up studies on Year 1 and 2 cohorts.

5.0 Manage project activities
- 5.1 Plan and update project timelines.
- 5.2 Establish and maintain project staffing and management.
- 5.3 Ensure participation of under-represented groups.
- 5.4 Coordinate project plans, activities and management with UAP Consumer Advisory Committee.
- 5.5 Report to project funders

Four Innovative Features

In extending the areas of the Project Team's experience with personnel preparation and school change, the BCSC objectives and activities focused on the merging of three critical components in the reform and restructuring of schools and communities in order to build the local capacity to promote the inclusion of all citizens. These components were:

- the merging of the perspectives and skills of both family members and professionals to effect improved outcomes in schools and the community as a whole;
- the merging of preservice and inservice teacher education and professional development;
- the merging of general and special education knowledge, instructional strategies, assessment and curriculum design to provide inclusionary educational services for students with diverse learning needs.
- In addition, the course sequence was televised to most areas of this very rural state over the interactive EDNET distance education technology. We emphasized recruiting teams of at least 3-4 participants at each of the downlink sites.

1) Mixed Ability Participants

In a concerted effort to increase our own diversity of learners from a seminar-sized cohort of preservice teachers focusing solely on students with severe disabilities, the BSCS course sequence was opened to virtually all types of educators, related service providers, administrators, and parents. We believed that a class representative of all of these perspectives would provide richer, on-going discussions of the day-to-day realities in the classroom and the current status of statewide school reform efforts. Furthermore we could form more heterogeneous, in-class work and study groups to work together as a team on a variety of activities. A work group, for example, might include a novice preservice teacher, an experienced general educator, a parent, an administrator, a speech therapist, and a special education classroom assistant. Such a cooperative work group is representative of efforts seen in today's inclusive schools that feature collaborative teams focusing on grade-level curriculum planning and instructional design issues.

While this breadth of potential students was a challenge for designing recruitment efforts, BSCS participants ultimately included a full range, with an educator balance of approximately 50/50 self-identifying primarily as either general or special educators. Several of the general educators actually repeated the course sequence, stating that the content and approaches towards including all learners in a classroom had been innovative, provocative, and rich enough to warrant their engaging the content and activities again in light of their ongoing experiences in their classrooms.

A particularly powerful outcome for the preservice teachers of this feature of including practicing professionals in the course was that we emphasized placing these students for practicum experiences with teachers who either had completed the courses previously or who were taking the sequence at the same time as the student. Thus, the coop-

erating professionals were extremely familiar with the materials, activities, and philosophy of the course and were able to support the learning of the preservice student with a wide range of relevant, real-life classroom and school-wide opportunities.

2) Redesigned Continuing Professional Development

Rethinking Continuing Professional Development: As a result of her participation on several state- and district-level councils and planning task forces, BCSC Project Director Ferguson synthesized a set of principles designed to reassess how teachers plan for their continuing professional development in order to make their learning relevant and effective. Professional development, drawing as it does upon individual motivation, must be structured to maximize individual decision-making and responsibility. The CPD definition and principles outlined below in Table 2 were developed by teachers and teacher educators and can assist them to balance considerations of format, learning outcome, and learning demands for both staff and professional development activities.

By applying many of these same principles as criteria in designing course activities and assignments, the Project team strove to create in-depth and activity-based experiences for the participants to tailor to their own teaching contexts. These activities and assignments are discussed in detail in the next section. The following CPD principles are excerpted from a fuller position paper on reforming CPD planning, which has been disseminated extensively, and is included as Attachment 1.

Table 2: Principles of Continuing Professional Development

> ***Continuing Professional Development*** *is an educator-driven, flexible system where educators engage in planning learning experiences over time that result in better and better learning and life experiences for students and educators.*

Principle 1: Child & Youth Centered. The purpose of CPD for educators is ultimately to make a difference in the learning and lives of students. Any effective CPD system must keep this point in focus and help participants connect their learning to student outcomes.

Principle 2: Educator/Learner Focused. Effective CPD is about *educators* learning and exploring new ideas they can then apply in their own practice. The educator/learner must be "in charge" of designing their own CPD experiences in ways that benefit their own learning, application and reflection.

Principle 3: In-depth. Effective CPD creates the opportunity for educators to take the time needed to work extensively with new ideas and information. Only such in-depth learning can be adequately integrated into practice in ways that benefit both educators and students.

Principle 4: Continuous. CPD never ends. Effective educators pursue learning and growth continuously. CPD systems should be structured in a fashion

so educators can periodically revisit and redesign those CPD experiences that support their continued growth.

Principle 5: Context Sensitive. Every educator's professional experiences are unique. CPD experiences should be designed in light of the particular educator's students, school, and district in order to be most effective and responsive.

Principle 6: Focused on Group Practice. Educators do not work alone. Increasingly, meeting the needs of Oregon's children and youth require groups of educators and others to design *together* effective learning. CPD should promote and provide experiences with this kind of interdependent group learning and purpose.

Principle 7: Research Oriented. The knowledge base of teaching and learning continues to grow and change as a result of the efforts of university-based and field-based educators and community members. Effective CPD should draw upon and in turn contributes to, this growing knowledge base.

Principle 8: Use of Panel-Validated Self-Assessment. Assessment of the results of CPD should be vested with the educator/learner. At appropriate times, the educator collects evidence of the effect of continuing professional development which is then validated by "friendly critics" representing a broader constituency of professionals and consumers. Effects of CPD experiences should related to student learning, teaching practice and growth in organizational capacity.

A new CPD self-assessment tool: In the second year of the BCSC Project, the team adapted a professional development assessment and planning tool for use with the broad range of practicing educators who would participate in the sequence. We had used the original assessment tool for a number of years with our preservice students. It represented a early shift in the traditional logic of preservice education from "competency-based training check lists" to "on-going, comprehensive skill development" across the myriad roles and requirements teachers regularly encounter in schools.

First, for use as a preservice tool, we described five comprehensive areas of teacher roles and responsibilities in which we expected our students to acquire at least introductery skills and experience during their initial training. These five broad areas covered *Teaching and Learning; Personal Support; Collegial Relationships; Management and Efficiency; and School Leadership and Advocacy.* The second component of this tool was the *Task Log*, a simple table that outlined features within these five areas, such as "assessment and learning history", "curriculum design", "teaching design", and "teaching practice" within the category of *Teaching and Learning*. Preservice teachers completed this log upon entering the program, particularly describing the areas in which they had had any previous experience. This document then formed the basis for planning the immediate activities and experiences in their practicum placements. Students updated this log at the end of each term to document their growing skills and to identify priorities to focus on in the next term.

With only minor adjustments in descriptive language from the preservice version, the *Professional Development Task Log* is an adapted version of this self-assessment approach that leads teachers in thinking through all areas of their professional life, again noting those in which they feel competent and skilled as well as those that they identify as priority learning areas. All of the BCSC course participants completed the *Task Log* at the end of the sequence to plan for their subsequent CPD interests and pursuits. The preservice students completed their final iteration of the *Log* alongside these practicing professionals in the BCSC course sequence. It thus not only served as a recursive guide for them through their initial program, but also instilled the professional ethic that the culmination of their preservice studies represents the beginning of their career-long CPD pursuits. The CPD Task Log and accompanying Teaching Roles and Tasks Descriptions are included as Attachment 2.

3) Innovative coursework and instructional design

The BCSC course sequence provided an innovative approach to blending the content needed by both general and special education teachers today in order to address the curriculum planning and design, instructional delivery, and meaningful assessment to support all children's learning in the general education context. In an important sense course design team held itself accountable to the principles of teaching that we were recommending teachers use in their own classrooms. The team regularly revamped elements of the courses in light of the participant evaluations, our own reflective self-evaluations, the above continuing professional development principles, and changes in the state's school restructuring and reform efforts. These ongoing adjustments were made in four primary areas: course content and organization; cooperative group structuring and related activities; in-class and out-of class course projects; and an emphasis on self- and peer-evaluation and assessment using task-specific rubrics and scoring guides.

Course Content and Organization

The three regular school-year courses had originally formed a significant portion of the core master's and preservice program content. The content and activities of *Curriculum Planning for Students with Severe Handicaps I and II* and *Classroom Management and Program Improvement* were sequenced to match the learning needs and development of these preservice teachers. Over the course of the BCSC project the content of these courses shifted to a broader perspective of preparing the preservice students to understand curriculum design and supports for all students, and then how students with significant disabilities would participate in these learning activities. We believe that their learning was faster and deeper because of their being able to maximize the expertise of the practicing teachers in the class. The content of the third course also shifted from a primary focus on the teacher's management of a self-contained classroom program to broader issues of school reform, standards, and more effective means of providing supports to students and families.

Specific course content over the three regular school-year terms included:

- examining different and innovative approaches to curriculum design for all students;

- activity-based assessment to design curriculum and link activities back to meaningful learning outcomes for all students;
- broadening the perspective and definitions of providing supports to students as needed in multiple areas to maximize their ability to engage in active learning;
- working collaboratively with a variety of school personnel;
- working effectively with school staff, a variety of other types of colleagues, parents, and related service personnel;
- understanding and participating in continuous program evaluation action research that leads to school improvement;
- and planning future professional development pursuits.

The fourth course, conducted as a two-week summer workshop, was a newer course and had been designed for the participation of parents and practicing teachers who were interested in improving the educational experiences of their students with disabilities. The course focused more broadly on the history of family and professional involvement in the lives of people with disabilities; an overview of the history of institutionalization and the right to education; issues around multi-culturalism, self-determination; and organizing supportive community systems as students transition into adulthood. The course was able to serve as either a "stand alone" offering or as a flexible entrée or exit to the full sequence. Many of the BCSC participants interestingly reported that this course tied everything together for them because of the historical and sociological perspectives.

The final year's syllabi for all four BCSC courses are included in Attachment 3.

Work and Study Groups

A feature of the BCSC course structure that was unique for many of the students was our emphasis on collaborative group work. We did this for two primary reasons: first, one component of effective learning for both young and adults learners rests on individual discovery, discussion, and collaborative problem-solving; second, we used these groups to teach the collaborative team skills – including understanding, identifying and supporting individual learning and communication styles – so necessary in today's restructuring schools.

In order to take advantage of the heterogeneity of the course participants, each student was assigned to two groups. Using the communication technologies described below, these groups were able to communicate during classtime within and across different downlink sites. Usually the participants needed to communicate with each other outside of classtime as well.

The first was a "Study Group", which was a maximally heterogeneous group, both professionally and geographically, of 5-6 participants. We made an effort to have rural teachers work with urban teachers, special educators with general educators, and to "sprinkle" the administrators, related services, and support staff across these different groups. The class would break into study groups to discuss readings, issues of school restructuring and reform, and other more general or philosophical topics. The composition of these groups encouraged the participants to consider often fairly divergent perspectives

on any given topic. The overall purpose of study groups was to help members build skills in discussion, dialogue, reflection and feedback. Study groups did not produce either individual or group products. They did help participants learn these necessary preliminary skills for later group collaboration and product production.

The second was a "Work Group". These groups were comprised, as much as possible, of educators working in the same school and who were thus participating in the BCSC sequence as a team. The projects that these groups worked on were designed to be tailored to their own contexts and student concerns. We would include in the group any of the preservice students who were working in that school during the term. We would also try to assign those educators who were participating alone to groups that were most representative of their own teaching context. Especially towards the end of the course sequence, these work groups worked together in class for as much as third of each week's class time to complete a large group project. Members frequently needed to meet or communicate outside of class as well, but since they were often in the same building at work they could easily do so over lunch or after school.

Course Projects and Activities

Course activities reflected a shift from the historically more simulated preservice-type assignments to more in-depth and applied learning activities with an emphasis on tailoring tasks and assignments to the participants' "real-life" classrooms and educational contexts. Tasks were designed in response to some of the larger questions current in the field about how to include a broad range of students in general education contexts, such as useful assessment strategies, designing integrated curriculum, and how to identify meaningful learning outcomes. Other tasks encouraged the professional development of the individual participants in becoming more reflective practitioners and thoughtful consumers of contemporary educational research, philosophy, and instructional approaches. Several of these activities are described briefly below. Fuller descriptions of the tasks are included in Attachment 4.

"Teaching slices": Across the course of the term, participants were to select a small incident in their teaching or a "learning event" to reflect upon. They were to describe this slice of their day in detail and to reflect upon why they chose it, what it revealed to them about teaching, and how it might lead them to think about other future teaching events.

Composite classroom: As the starting point of the Work Group's final project, each group was to design a heterogeneous classroom of students, composed as much as possible of students with whom they were actually working. They would describe these students in detail and then add other hypothetical students to round out the balance of the class where necessary. The groups would then develop other assignments to use with or apply to the composite class. Over the course of the three terms, work groups completed assessments with students in the composite class, designed curricular units, developed lessons that individually tailored learning targets for each student, and developed assessment tools that would document all aspects of the students' achievements. Because many of the students were real, teachers and practicum students were able to think through the issues they faced with these students day to day, and to capitalize on the strength of the

group's thinking to design improved curriculum and activities for them. Participants therefor very rarely complained that the assignments felt like "busy work" or did not apply to them.

School analysis: Each participant completed a comprehensive school profile, using an analytical tool developed by a BCSC instructional team member as part of her dissertation. The *School Visit Guide* helped many of the educators gain both a broader perspective of how their school as a whole fit into the current context of school reform and restructuring, as well as looking at specific issues in some focused detail. The preservice students completed a Visit Guide each term as part of their practicum requirements in each new school they worked in.

Planning and documentation tools: Designed and updated by members of the BCSC Project team, the module *Designing Classroom Curriculum for Personalized Learning* was the primary text used across the three courses. All students used the curriculum planning and student documentation tools included in the module for their work group activities and practicum assignments. Thus, preservice students who were completing practica in a BCSC participant's classroom could work on these assignments with their cooperating professional. As much as possible others were working in classrooms with teachers who had previously completed the course, and so were very familiar with and were using these same tools. These tools included the Individually Tailored Education Report and the Learning History Log, two key documentation tools that had immediate impacts on the quality of many of their students' educational experiences. A copy of the module is included as Attachment 5.

Self-generated tasks Participants completed a variety of self-generated tasks that most fit with their current classroom needs or educational issues. Tasks ranged from keeping a weekly reflective journal, to repeating or elaborating on one of the other assignments, to creating something completely individualized for themselves. This activity allowed each participant to pursue something of immediate interest or import to them. Often the liaisons were able to provide direct technical support for a problem or set of questions raised through these assignments.

Self- and Peer-assessment

Self-assessment: As prevalent as "scoring guides" and "rubrics" are in climate of school reform today, these were substantially unfamiliar concepts and tools at the beginning of the BCSC project. The Project Team also found that the participants were extremely uncomfortable providing feedback to classmates, either on their group participation or written products. Many felt that it was not their role to "grade" their peers, and when asked to assess their own work, they tended to give themselves high marks with little basis for judgment. Consequently we realized that, before the participants would be able to generate meaningful and useful student assessment strategies of their own and to thoroughly understand the principles underlying the scoring guides for Oregon's new state standards, they would have to experience the value of well-constructed assessment tools themselves.

For most of the course assignments we created "task specific rubrics", describing the quality and features of work that would result in a top score of "5", as well as features

which would result in a low score. More general rubrics that reflected presentation and writing styles were similar in language and approach to the writing scoring guides being developed by the state for use with the new state standards. Students would turn in a task specific rubric for each assignment, as well as a cover sheet that provided additional opportunity to reflect on the quality of work done. Samples of these scoring guides and rubrics are included as Attachment 6.

As discussed earlier the ***Task Log*** also served as a powerful self-assessment and analytical tool for both the preservice and inservice participants. As they updated their logs on a regular basis, they were able reflect on what they had learned to date and could see how what was coming next in the coursework related to their personal learning plans.

Peer-assessment: As noted above, even the phrase "peer assessment" in this context was surprisingly uncomfortable for many of the participants. In response, we shifted language and strategies, and developed, for example, a tool that allowed for a focused conversation within a group initially on how each participant viewed their own strengths, cognitive processing needs, communication skills, and so on when functioning as a group member. We also focused more overtly on actually teaching how to participate in group work, which might include delivering constructive criticism. Subsequently, each group completed a "how did we do as a group?" work sheet, that again directed them to reflect on how completely each member had participated and how well the group had supported the individual participation needs of each member. This process proved extremely revelatory to the groups for thinking about how and why individuals participated as part of a team. The Group Worksheets are included as Attachment 7.

4) Use of Satellite Distance Learning Technology

ENDET Technology: Overview: Oregon currently has two live video distance education capabilities over its EDNET broadcasting system. EDNET 1 and 2 provide two different capacities, which have both instructional and accessibility related issues. In simple terms EDNET 1 provides for "one-way video, two-way audio", and EDNET 2 provides "two-way video, two-way audio".

EDNET 1 programs are broadcast over a satellite feed that can technically be received by anyone having a satellite dish. Only subscribers to the EDNET system, however, can procure the "darome", or speaker, units and tie into the audio capabilities. Over 180 downlink sites around the state were EDNET 1 subscribers in 1996, with a projected goal of 600 sites. These downlink sites ranged from hospitals, schools and colleges, education service district buildings, Department of Human Resource offices, city libraries, and fire stations. At these downlink sites, viewers see the broadcast sender's studio on their television sets and, after they phone in to the EDNET operator who connects their interactive audio capacity, can press the button on their darome and speak across the whole broadcast. The effect of activating the darome is that all audio communication from the video sending site is cut off to the interrupting site, much like a two-way radio. All of the other sites, however, can still hear both parties. The "interrupter" can then ask a question or make a comment, but must remember to release the darome in order to hear any response. The video quality of EDNET 1 is virtually identical to any regular television programming.

EDNET 2, on the other hand, is markedly different in that the video portion is transmitted at fewer frames per second such that the result is a "slow motion" or jerky "stop action effect". This visual effect can be quite disconcerting to the viewers, especially over a sustained period. Furthermore, a designee at the originating broadcast site controls a site viewing selection panel, switching both the audio and the video "send" to the other participating sites. This switch can take a few seconds and is usually accompanied by a video delay while the full picture registers. Meanwhile, the participants tend to keep talking as if all were in a room together. Because EDNET 2 requires full television studio capacity for both sending and receiving the signal, there are many fewer participating sites around the state, approximately 40, and primarily include community colleges, universities, and the State Department of Education.

BCSC Broadcasts

The three BCSC courses that occurred during the fall, winter and spring University terms were all broadcast live each week over Oregon's EDNET 1 system. The following section describes some of our experiences across the three years to improve the effectiveness of this format of "distance education". Halfway through each term we surveyed the participants both on-site (i.e. the University of Oregon) and off-site about their experiences in taking the course this way. We gathered data regarding physical and technological accessibility as well as the course content and activities. The BCSC design team also met weekly throughout the year to consider the feedback we received on a regular basis. The surveys that were used for these mid-term evaluations are included as Attachment 8.

Recruitment

Recruitment in general for professional development coursework is a challenging process for several reasons. First, teachers simply aren't "watching" for it. They're much more accustomed to one-day or weekend long inservices at regular intervals through the school year or possibly a week-long workshop during the summer. Secondly, at the time they need to think about registering for university coursework they are often either in the throes of starting up their school year, submitting grades, or returning from vacation. Marketing coursework in June for the following school year is also challenging timing, with flyers shuffled into wastebaskets or "I'll deal with it later files" as teachers close up classrooms for the summer.

Consequently, we experimented with a variety of methods to reach both local teachers and those working in the extremely rural districts of Eastern Oregon. Recruitment included mailing flyers to most district superintendents, curriculum specialists, special education coordinators, and building principals. We learned from teachers that too frequently they only learned about the coursework from this network after the class had already begun. Flyers were also distributed at teacher and administrator conferences. The timing of these conferences during the school year enabled teachers to join the sequence in the spring or summer terms, but because of the sequential nature of the course, those that joined in spring often felt that they were missing part of the conversation.

The more we were able to reach teachers directly and at certain key times before the start of the courses, the better our recruitment. Publishing information in the teachers'

union newsletter, in the teacher want ads section of the newspaper, and via email for those districts that were on-line at the time. "Piggybacking" on other advertising, such as EDNET's own brochures, was also an important route for recruitment.

In spite of these challenges, the recruitment for the course was successful, resulting in typical class sizes of 50 students, usually 25 on-campus and 25 others spread around 5-7 off-campus sites. We were also successful in encouraging small groups of teachers from the same school to take the class together, since they were often working on many of the issues as a natural team in their buildings already.

Accessibility

The surveys gathered information on what made the course sequence more and less "accessible" to the participants. We included a broad variety of "accessibility features", ranging from the tuition support and class time of day, to the structure and content of the courses, as well as the physical, communication and technological aspects. We will report on several of these aspects that we believe would be most important to replicating or improving on our experiences with this distance education format.

On-campus -- Off-campus Communications

At the time of the BCSC sequence other distance education and communication technologies were in relatively rudimentary development throughout the state. Most schools and teachers did not yet have email, and nor even have fax capabilities. Often when they did have a fax in the school building they were not allowed to use it to send long distance faxes. Not surprisingly, the larger, wealthier school districts tended to be more technologically advanced, but often the educators who were the "hungriest" for distance education were those in the rural districts, many miles from community colleges and universities.

Because we often changed and adjusted course assignments, overheads, and support materials, we found that we were frequently in the position of distributing just-created materials during class time. Of course this meant that the off-campus sites did not receive them through the mail until later in the week. Similarly, the submission of assignments and the turn-around for instructor feedback were dependent on US and campus mail systems and always added substantial time for the off-campus students. We realized that it felt extremely unfair, and in fact often put the off-campus sites at some disadvantage, to have such a delay.

Fax machines: To improve the speed and efficiency of off-campus communications, we purchased a number of fax machines to loan to a group leader of the off-campus downlink sites. We also added a fax machine in our television studio classroom. Finally, we provided a calling card billing number to those students who needed it for telephoning/faxing. With these fax machines available, off-campus students were able to contributing "real time" in-class written activities which we could display on the visualizer, as well as sending in coursework during the week to the university liaison or to other participants.

Darome-to-darome and speaker phones: When working in their assigned "study groups" BCSC participants needed to communicate with other members during class at

other downlink sites. They did this in two ways. First, we were able to work with the EDNET technicians so that by flipping certain switches on their daromes the EDNET operator was able to turn off the sound from our broadcast studio and let two or more off-campus groups talk to each other over the daromes. Often, one of these participants was a sub-group of the on-campus class, so the television camera focused on them or on a visualizer overhead during the small-group discussion time. We were also able to connect a second on-campus group to one other off-campus group by adding a speaker telephone to our studio classroom. The on-campus group would telephone the site, which also had a speaker phone, and were able thus to discuss a topic together. To reconvene the class, we flashed a special blinking screen to catch their attention and return to the original Darome settings.

Project Liaisons: Because of the number of students, the distance factors, and the complexity and innovativeness of some of the coursework, the Project made relatively liberal use of course "liaison" supports to the different work groups that were formed. We found in fact that it was most effective to assign a Project liaison to communicate directly with a set of specific groups on a weekly basis throughout the term. The liaison's responsibilities ranged from checking in with a group to make sure they had received all materials and were up to date on their work, to visiting classrooms and offering technical support when asked. Some of this liaison support was made possible through the research component of the BCSC grant; some was contributed through another preservice personnel preparation grant; still other liaisons were doctoral candidates who were completing their own program requirements.

Weekly Memo/Fax routine: Finally, because of some of these communication challenges, we required all of the work groups, both on- and off-campus, to complete a brief "memo/fax" form at the end of each class. On this memo/fax they listed topics covered in class that night, who was in attendance, any additional questions or needs they might have, and group member responsibilities for current group tasks and assignments. Sometimes these groups consisted of members from one or more different sites, so it was particularly important for the both the group members and the UO support liaison to be clear about any communication difficulties or needs.

Results, Impacts and Ripples

The BCSC Project was extremely successful on many fronts, both directly in the specific project goals and objectives and indirectly through publications and advocacy. This section describes many of the accomplishments and "ripple effects" that occurred as a result of the BCSC Project.

Results

Student recruitment and demographics: Recruitment of educators into the course sequence was aimed at expanding both the geographic and professional ranges of the participants. As challenging as certain aspects of the recruitment process proved to be, the BCSC project was successful on both of these fronts. Over the course of the three years, 149 BCSC-funded educators participated. Forty-six of these students, representing 7 different school districts, participated from the campus studio classroom, along with an additional 36 national and international students at this classroom funded through other sources. One hundred three BCSC-funded students participated from 21 different downlink sites around the state. Table 3 outlines the participation at these sites by year. Figure 1 is a map of Oregon depicting the geographical relationships of the sites.

Figure 1: Map of Oregon

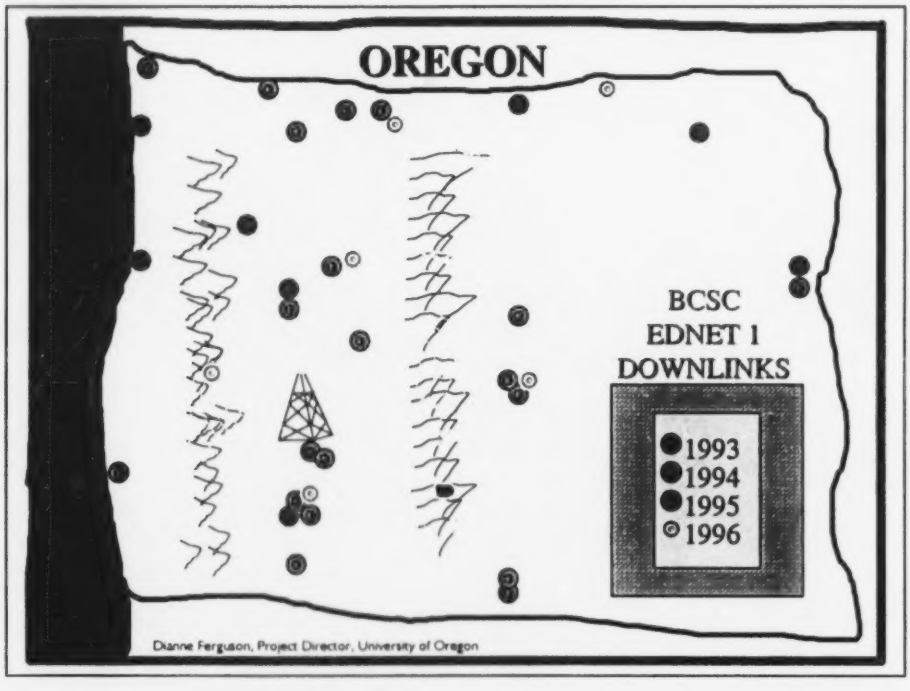

Table 3: Numbers of BCSC students and downlink sites, 1994-1997				
SITE	1994-1995 # STUDENTS	1995-1996 # STUDENTS	1996-1997 # STUDENTS	TOTAL AT SITE, 1994-1997
1. ALSEA			4	4
2. ASTORIA	2			2
3. BEND ESD		7	(moved site to Redmond)	7
4. COOS ESD	4	1		5
5. COTTAGE GROVE	2	2		4
6. CULVER	2			2
7. DOUGLAS ESD	10	8	6	24
8. EUGENE – studio class	12	7	27	46
9. HERMISTON			3	3
10. HILLCREST			2	2
11. HILLSBORO		1		1
12. JACKSON ESD	4			4
13. KLAMATH FALLS	1	2		3
14. LEBANON	9			9
15. MALHEUR ESD		2		2
16. MULTNOMAH ESD	7		4	11
17. REDMOND ESD			3	3
18. REYNOLDS		4		4
19. SALEM		1		1
20. SISTERS HS	1			1
21. ST. HELENS	3			3
22. WOODBURN		4	4	8
TOTAL PER YEAR:	45	32	26	BCSC funded total 149
Plus other funded:				36
TOTAL BCSC student participation				185

Professionally the BCSC participants primarily represented general and special education classroom teachers or consultants, but the course constituency each term was enhanced by parents, administrators, YTP and transition specialists, related service personnel, and even a school board member who was planning on returning to the role classroom teacher.

Video Course: The BCSC Project also supported the development of a video course based on the three course-sequence of the regular school year. Each class was video taped and selected content was later spliced and edited to produce a video of the term's content. We piloted two versions of the course, with a final editing and compilation recently completed that takes the strongest sections of course material from each of the three years.

The course is designed to be completed over time, typically a full term, and we encourage building teams to participate together. The course is accompanied by a reading packet and a set of tasks and assignments with the associated scoring guides and rubrics. The participants also follow the "study group" discussion tasks and "work group" activity

assignments from the full course. Especially when a group has been able to take the course together, we have provided liaison support which included on-site visits during the group's meeting time.

CPL Module Revision: As the result of a number of research and personnel preparation projects, the BCSC staff had developed a series of products and instruments for teachers and administrators to use to become more effective educators of students with significant disabilities. During the course of the BCSC project, we revised and combined many of these materials into a single module that then formed the basis for much of the instruction and assignments related to the BCSC sequence. We have renamed this module *Designing Classroom Curriculum for Personalized Learning*, or the CPL for short. We are currently a publication and dissemination contract with The Association for Supervision and Curriculum Development. A copy of the module is included as Attachment 5.

Project Evaluation Components: The evaluation component of the BCSC Project emphasized four areas: 1) course content and activities; (2) the effectiveness of distance technology; (3) participant learning; and, (4) describe some of the longer term effects on participants as a result of the coursework. We have previously discussed many of the course evaluation strategies employed during the project, and will report on the distance technology in depth in a subsequent section.

Participant Learning: Evidence of the participants' learning was documented both individually and in the context of the workgroups. As discussed in an earlier section, what began as a teaching tool for preservice students has now evolved as a powerful professional development self-assessment and planning tool which is serving as the structure for a unified approach all of the licensure programs in the College of Education in the design of Oregon's new Continuing Teacher License. The hallmark of Oregon's 21st century teachers license renewal is the requirement of ongoing professional development, and the ***Task Log*** approach will allow educators both to document their knowledge cumulatively and to set personal priorities for what they will pursue next.

Work Sample Notebooks also were used as a primary documentation of an individual's participation in and contribution to a team effort in designing curriculum, assessment and instructional strategies and documenting diverse student learning. The rubric and scoring guide that the BCSC team used to evaluate these notebooks stemmed from the Work Sample requirements in Oregon's licensure regulations. We knew that there was dissatisfaction on the part of the Teacher Standards and Practices Commission (TSPC), the governing body that licenses teachers in Oregon, as to the general quality of many of the Work Samples they had been reviewing. BCSC staff and Project Director Ferguson developed a position pamphlet and generic scoring guide for the College of Education Faculty to use, and, as a result of her participation on several state-wide committees, the document is being used as a basis for improving the teaching and scoring of student Work Samples. A copy of the pamphlet is included as Attachment 9.

***Follow up and sustained learning*:** Project staff continued to meet formally and informally with a number of the BCSC graduates following their course participation. Many of the broader school-based contexts in which these connections occurred are reported on below in the section entitled "Ripples." Additionally, as an intended result of

the Project design, a number of participants subsequently pursued an advanced degree and/or licensure and endorsement, including moving into administrative capacities.

Impacts

***Changes in Oregon's teacher licensure*:** During the course of the BCSC Project Oregon was in the process of redesigning both initial and continuing licensure requirements to align with the educational reforms mandated in the Oregon Educational Act for the 21st Century. Members of the Project team participated in a variety of levels, ranging from locally held "open testimony" hearings, to stakeholder design groups such as the Cooperative Council for the Development of Professionals in Special Education. We report these activities in the context of this final report, because we believe that our research through this and previous grants resulted in substantial impact on these changes in at least two ways.

Elimination of the Severely Handicapped Learner (SHL) Teaching License: Since the late 1970s, broadly speaking Oregon has maintained three categorical teaching licenses: "general education", "mildly handicapped" (Handicapped Learner Endorsement or HLE), and "severely handicapped". These licenses tended to be restrictive in nature, in other words, a teacher with the SHL was only allowed to teach in a self-contained classroom of students with severe cognitive disabilities. HLE training was theoretically supposed to incorporate the SHL content as well, preparing educators to work across the full spectrum of identified students, but most typically these educators staffed "resource rooms" or "mildly handicapped" classroom.

Our advocacy on this issue was that maintaining the SHL as a completely separate, or "stand alone" license would continue to isolate both teachers and children from the context of general education. We strongly maintained that all educators should be trained to respond to the full range of student ability and that much of the specialized expertise that a few students may need should be acquired through on-going professional development. As of this writing, the state has indeed eliminated this license and strongly encouraged the merging of general and special education teacher training.

Shift to CPD logic for licensure renewal: Again as part of statewide committee and design group participation, the experiences the BCSC Project staff had had with on-going professional development for both general and special educators and the philosophy outlined earlier in this report (see the CPD principles, page #) are reflected in the new procedures for licensure renewal that will be required of <u>all</u> licensed staff working in schools. This requirement includes administrators, therapists, elementary and special education teachers, some of whom had no professional development component required for renewal previously. Furthermore, the professional development self-assessment approach and a revision of the CPD task log form the underlying and unifying premises for the newly designed Continuing License used in all of the University of Oregon College of Education.

***Publications*:** The following abstracts are from selected publications by Project Staff stemming from our experiences during the BCSC project.

The real challenge of inclusion: Confessions of a "rabid inclusionist" (1995), Dianne Ferguson.

Inclusion's new challenge is to create schools that no longer rely on a particular text, activity, or teaching mode to support a given student's learning. The learning enterprise of reinvented inclusive schools will be a constant conversation involving students, educators, families, and others working to construct learning, document accomplishments, and adjust supports.

Creating together the tools to reinvent schools (1996), Dianne Ferguson and Gwen Meyer.

This chapter describes an evolving relationship between a rural elementary school and a group of university based teachers in Oregon. The account reveals the ways in which, both groups came to appreciate the difference between "special education inclusion" and "systemic inclusion" and it serves as an example of the type of partnership that is possible when special and general educators begin to work together. The focus of the study was to learn "what happened" when a school included students with significant disabilities in the school community. University researchers spent time in the school over a three-year period, watching, listening and talking to staff, parents and students. This chapter represents their efforts to organize and analyze the information gathered into a chronicle that captures the changes in both the researchers and the school.

The changing role of special educators: A development waiting for a trend (1996), Dianne Ferguson and Ginevra Ralph.

The invitation to contribute to this issue encouraged discussion of topics other than inclusion. Yet it is difficult to locate an issue or development that is not touched, in one way or another, by the broader trend of inclusion. Despite ongoing debates, inclusion reforms have generated at least two quite visible results: (1) general education classroom diversity increasingly includes the diversity of disability, and (2) separate special education classrooms are gradually decreasing in number. As a consequence of both these trends, the role and daily duties of special educators is shifting from "classroom teacher" to a variety of specialist, support, consultative, and generally itinerant, roles. Here, we reflect on this shift in role and the implications for teacher education and continuing professional development.

Debating inclusion in Synecdoche, New York: A response to Gresham and MacMillan (1997), Dianne Ferguson and Phil Ferguson.

Gresham and MacMillan review what the research says about the comparative development of socialization skills in children with disabilities placed in inclusive or noninclusive educational programs. Our article responds by arguing that a comprehensive review of the inclusion debate needs to cast a bigger net than the one used by Gresham and MacMillan. We briefly refer to some of the additional research and interpretive perspectives that seem relevant to considerations of inclusion and diversity in America's schools.

Changing tactics: Research on embedding inclusion reforms within general education restructuring efforts (1998), Dianne Ferguson.

After years of research and efforts in pursuit of a greater understanding of inclusion, there is now growing certainty that inclusive reforms in special education must be pursued in terms of restructuring and improvement in general education. In this chapter three issues are raised and addressed. They are: (1) how does special education become an integral part of public schooling? (2) how will higher education, various research organizations, educational labs, institutes, and other research organizations in both general and special education need to change? (3) how should families, individual community members, community agencies, and business participate in large-scale school change?

Ripple Effects

By reaching out to practicing educators and connecting so intimately and authentically with their day-to-day school experiences, the BCSC Project resulted in many positive "ripple effects" by virtue of extending these relationships beyond the course sequence itself. Below we describe a variety of these relationships and ripples that we believe resulted in broadening the abilities of the educators, schools and districts with whom we worked to be more effective in educating all students, including those with disabilities.

Repeat students: Somewhat to our initial surprise, several educators repeated the course sequence in its entirety. These repeaters were accomplished teachers; some close to the end of their career. Nevertheless, they reported that the ideas, educational approaches and materials had been so new and provocative they wanted to go through the entire sequence again to fully process and internalize these strategies. They were wonderful to have in class and became very powerful group leaders for the workgroups and study groups.

Practicum relationships: Having both preservice and inservice educators in class together forged extremely rich and powerful learning opportunities for the preservice students with regards to practicum and student teaching experiences. Priority for placement choices were given to teachers who either were or had been in the course sequence. By the end of the Project, virtually all of our preservice students were able to complete their practicum activities and assignments with general education teachers who were actively working towards including all students in the general education curriculum and who were using the same approaches and materials that the practicum students were learning in class.

Ongoing informal requests: Many of the educators continued to stay in touch by requesting additional materials (such as the Visit Guide), publications and minor technical assistance support. Others asked for help with collaborative action research projects, either by individual teachers or through our BCSC participants who were serving on site Councils or other such governing groups.

Formal relationships: BCSC staff agreed to participate in a number of more formal, contractual relationships to provide schools and districts with additional support, all of which came as a direct result of the educators' experiences in the course sequence. We briefly describe five of those relationships below.

Educational Assistants Inservice: One of the smaller districts who had been making significant strides at including all of their students in general education contexts and who had had a number of educators (both licensed teachers and educational assistants) participate in the courses requested that we develop an inservice for all of that districts' educational assistants. The BCSC Project so strongly confirmed for us of the need and the value of a sustained learning experience required to effect the kinds of changes that the district hoped to make that we were almost reluctant to take on the task. But we agreed to take the allotted time and divide it into three sessions held across several weeks, so that the participants would be able to apply and react to some of the approaches we were discussing in class. Our instructional design was much more effective than a traditional, one-day, all-day type of workshop, but we did wish we could have had even more time with them!

Assessment project: Several teachers from the same district, many of whom had participated in the course sequence, identified student assessment as one of their professional development inquiries. Again, we were asked to work with this team of general and special teachers and assistants and specialists. We chose to conduct this workshop almost as an action research project, whereby we would meet over an extended period and in the meantime they would gather information and report on ideas that they had tried out in their classroom. Because it was a heterogeneous group, the assessment examples they provided and discussed were particularly diverse, and in some cases somewhat controversial, yielding great opportunities for learning.

District-wide assessment project: BCSC staff collaborated with another district on a Goals 2000 grant that focused on student assessment practices, raising student math and reading scores to meet the new, higher benchmarks, and improving parent-school relationships. The project included interviewing all of the willing teachers and administrators in the district and conducting a direct mail survey for all of the district parents regarding assessment practices.

District-wide student interview project: Following their participation in the BCSC video course, administrators from a third district contracted BCSC staff to create and conduct a unique survey with all of the teachers and students in the district as part of their school improvement process. A key component of the design of this project was for the district to be able to redesign or update future surveys, implement the survey delivery, and analyze the results in the future without the need for outside assistance. A copy of the teacher survey, an early elementary student survey, and a secondary student survey are included as Attachment 10.

DISTANCE EDUCATION USING EDNET TECHNOLOGY: WHAT WE LEARNED

We have discussed earlier in this report the kinds of course activities and assignments that were developed for this course sequence. This section will focus more on what we learned about some other efforts that it took to make such a distance education course effective in general.

Format (course structure, staff supports and content)

In the broadest terms, these courses were more similar than not to a traditional university course: a live lead instructor presenting content and arranging discussion/work groups during a 3-hour class. The course was held on Tuesdays from 5:00 – 8:00, and participants brought pot-luck light dinners. Students typically had weekly reading assignments and larger tasks to turn in several times during the term. A final, collective portfolio-type submission from each work group wrapped up the term. There were no exams or final term papers.

A key feature of the BCSC sequence was the relatively liberal use of course "liaison" supports to the various work groups that were formed within the course. We found in fact that it was most effective to assign a liaison to communicate directly with set of specific groups on a weekly basis throughout the term. Some of this liaison support was made possible through the research component of the BCSC grant; some was contributed through another preservice personnel preparation grant; still other liaisons were doctoral candidates.

A hallmark of the lead instructor, Project Director Dianne Ferguson, was her development of colorful graphic "overheads". A particularly nice feature of the EDNET television capabilities was the "visualizer" – a video tool that displays on camera anything placed on its platform. The visualizer, for example, allowed work groups to display products written on the spot as part of work group activities or close up views of photographs or books.

In a slightly ironic development, one customary classroom teaching tool was actually more problematic for usage over EDNET. Because we were broadcasting live, most video producers – even those who produced training videos through university research facilities – would not grant the copyright clearances needed to air the films. We were only able to air videos that we had produced ourselves or a particular Canadian film whose producers had granted specific permission.

Format (technology)

Technological features of EDNET made the course both easier and more frustrating at times for both the participants and the instructors. We've categorized the majority of these issues into either "equipment" and "behavior". Both of these areas held some unanticipated surprises for the instructional team, some aspects of which we could

significantly improve upon by changing our procedures; others were out of our hands and continued to be a significant source of difficulty for participation.

***Equipment*:** The major equipment components and requirements for producing EDNET broadcasts include the following features. We will briefly comment on the issues surrounding each in Table 4.

Table 4: EDNET Broadcast Features

EQUIPMENT FEATURE	DISCUSSION
Television satellite; senders & receivers	• It may seem obvious, but live broadcasts depend on the reliability of the satellite and the send/receive dishes. Unfortunately, one of our biggest frustrations, however, was that inclement weather – particularly wind and snow storms – interfered with both the outgoing feed from our studio classroom as well as the downlink reception. Wind would literally blow the satellite dishes out of alignment. Thus, the off-site participants affected by local weather conditions, would miss the broadcast, even if they showed up for class. They could make up the class by watching the video we would make of class each week, but this in turn meant that they would have to get together for an additional 3-hour evening once we got them the video in the mail. Several sites lost their receive capabilities more than 3 times during a term, putting them substantially behind in the course content and work group activities.
Television cameras, monitors	• Initially participants on campus were somewhat shy at being seen "on television", although it was of course not a broadcast seen by others. Many had a difficult time when asked to present something in front of the class. However, we reminded both the on-site and off-site students that this sort of participation was likely to become routine in the "technological classroom." Most students become desensitized fairly quickly to being on camera, and we often asked the off-site participants to send in photos or videos so that we had a "face to go with their voice" and make them seem less invisible. • Participating in the studio classroom was a unique experience in that students could sit with their backs to the presenter and be watching the studio monitors – not missing a thing. This arrangement could be a bit disconcerting to the presenter at times however! • In order to budget our production expenses, we often used student camera crews. Quality was generally high, although we often had new crews each term!
Studio microphones	• The studio classroom had microphones in a number of locations, but, even so, the audio quality from anybody but the presenter could sometimes be a challenge. Microphone types included battery operated clip-ons, flat table mikes that were sometime suspended from the ceiling, and a typical vertical microphone that we used for the small group communications. Generally the sound quality appears not to have been too big a problem for the off-site groups.
Off-site microphones	• As mentioned a Darome was the means for the off-site groups to communicate with the class or instructor. It required breaking into the conversation without being able to hear if the instructor was saying anything to you, and if you forgot to release the button you of course would miss what was said next. We developed a system whereby an off-campus site would identify itself by location when they wanted to speak, e.g. "Roseburg". The instructor would then acknowledge them at a stopping point. This procedure worked fairly well. • However, the Darome is really somewhat cumbersome , and we would notice that participation would fall off after initial efforts and novelty wore off. The instructor, for example, needed to make a concerted effort to call on each of the off-campus sites to ensure their participation in a discussion.

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Dialing in to hook up/ Hot line technical assistance	• The process at the distance sites for joining in on the broadcast was for each of the sites to phone in to the central EDNET operator, who then linked the site's microphone to the broadcast. This central person remained on line during the entire broadcast to monitor the program and trouble shoot any difficulties. We were fortunate in the EDNET personnel assigned to us who were both easy to work with and able to explain trouble shooting procedures over the phone lines very well.
Site availability/accessibility	• Setting up and coordinating the distance sites was one of the most time-consuming and often frustrating features of the system. Although there were several hundred downlink sites listed for EDNET, realistically we were able to access only those in public school facilities. Others were either too costly per hour (e.g. Community Colleges) or reserved for other primary users (hospitals and libraries). • Because of the newness of using the technology in this manner, and the fact that it was difficult for interested students around the state to figure out where and how to take the class, one of the BCSC staff made these phone calls and negotiations. Our recommendation to EDNET was that somehow this task be centralized through them when an intermediary was necessary. • Even using school district buildings could be a challenge. Often they were locked after five pm and teachers were not granted flexible access either to the building or the equipment. Often when one person was allowed to have a key and received some technical training, all the other participants at that site were locked out if he or she needed to miss class.
Cost	• The cost to broadcast the course each term was approximately $12,000, including on-site studio time plus the EDNET fees. Each downlink site also pays an annual membership to have the EDNET equipment and linkage of approximately $1,200.

Behavior: As we began the series the first year, we were a bit puzzled by the number of times that the off-campus students seemed to say "you never told us that" an assignment was due or to bring something to class and so on. We knew that we had and even had the evidence on video! Consequently, we used the liaisons to visit as many of the off-site classrooms as possible to try to analyze what the problem was.

We dubbed what we saw "television watching behavior". Such behavior ranged from getting up in the middle of a presentation to get food or use the restroom, holding side conversations, actually turning down the audio for the group to discuss something else, continuing to work on a group project after everybody else had reconvened, and even taking verbal "pot shots" at the presenter on camera in a way reminiscent of someone talking back to a tv personality but that would never occur in a classroom!

Based on these observations, we developed some procedures to make sure that they what had been covered in class, what was being expected of them in between classes, and "check in" procedures following class interruptions. As noted earlier, the weekly/memo fax routine helped significantly with these problems!

"How to" Training Video: As we thought about these "negative off-site behaviors" we also considered what impacts the live broadcast had on how the studio classroom participants. It was easy, for example, for them to forget to include the off-site study group participants in their discussions because of not being able to see them. Studio classroom students were able to sit in a circle around a table and watch the instructor on a monitor at the back of the room – but it was often disconcerting to the instructor to speak to students' backs! Consequently, we developed a 30-minute video that we showed at the be-

ginning of the year on how to participate in a live, distance education class. The video included recommendations, cautions, and considerations for both on-site and off-site participants. This video was subsequently shared with other EDNET program coordinators, including medical and fire fighter course instructors as well as higher education faculty.

On-site -- Off-site Communications Unlike many other distance education courses conducted either solely electronically or on a student-initiated time schedule, the BCSC course sequence was conducted in "real time". In other words the off-site participants were expected to be as current with weekly course assignments and materials as anybody on-campus. Furthermore we valued live and immediate group participation regardless of location, and we expected the off-site students to be as "tied in" as possible to fellow classmates around the state. However, these expectations increased the pressure for assuring timely exchanges of information and materials in order to keep everyone equally current.

Mail: We found, for example, that surface mail put the off-site students at a distinct disadvantage when submitting assignments for timely feedback or when we would distribute new or updated handouts for class work. Students on campus of course received the new handouts to look at during class, but the off-site students lost the immediacy of that learning opportunity if we couldn't get them into their hands by classtime. Few participants at the time had either email or web access. Consequently we tried to maximize the use of faxes when we needed quick paperwork turnaround, even though they often resulted in poorer quality copies. Many of the sites, however, either did not have a fax machine or would not allow the BCSC participants to use it. Through the BCSC grant we were able to purchase and loan out 4 fax machines to several of the sites, so that we could fax materials to a group leader during the week. We also had a fax machine in the classroom so that those who could fax during classtime were able to send us their work if they had a machine available. At the end of class each group would submit a weekly memo/fax describing what had occurred and what the group's responsibilities for the week were. This system worked fairly well, although at times people were not allowed to make a long distance fax call on school telephone lines.

Telephones: Each off-site group appointed a leader who would communicate directly with the liaison on behalf of the group. We supplied this member with a calling card number so that they could make calls during the work day. Additionally, we used a speaker phone during our broadcasts so that one of the small groups on campus could connect with a study group off-campus and all members could hear and speak together.

SUMMARY AND CONCLUSION

The Building Capacity for Sustainable Change effectively demonstrated at least four key features of rethinking inservice formats. First, the Project demonstrated how powerful a learning experience it can be to have an engaged, heterogeneous group of participants working together to respond to educational problems. Second, because the issues surrounding the inclusion of students with disabilities into general education contexts are complex and require substantial rethinking of roles, relationships, and even the fundamental purposes and philosophy of education, BCSC demonstrated how certain topics require educators to grapple with them in an in-depth and sustained format, rather than through short in-service formats. Third, BCSC furthered the discussion concerning the challenges to maintaining high quality pedagogical principles while operating with distance learning formats. Finally, BCSC underscored the critical importance of educators being much more involved in designing their own professional development plans in order to improve the work force in a meaningful way.